

In re: Navarro Acevedo *et al.*
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REMARKS

Claims 1-17 are pending in the application. Claims 18-38 are withdrawn from consideration as being drawn to non-elected inventions. Applicants expressly reserve the right to file divisional applications or take such other appropriate measures deemed necessary to protect the inventions in the remaining claims. Claims 1, 2, 5, 9, 12, 13 and 17 (and thus dependent claims 3, 4, 6-8, 10, 11, 14-16) have been amended. Support for the amendments can be found in the specification as filed. No new matter has been added by way of amendment. Reexamination and reconsideration of the claims are respectfully requested.

Information Disclosure Statement

On page 2 of the Office Action mailed February 26, 2003, the Examiner states that the information disclosure statement filed on January 23, 2002 fails to comply with 37 CFR 1.98(a)(1) because no form 1449 was filed by Applicant. Applicants respectfully disagree. Applicants attach the return postcard, which was stamped by the USPTO showing receipt of documents on January 23, 2002. As evidenced by the list of documents cited on the postcard, the Form 1449 was included with the information disclosure statement and 5 citations. Applicants also attach a copy of the Form 1449 as filed on January 23, 2002, for the Examiner's convenience.

Hyperlinks

The Examiner has objected to the disclosure due to the inclusion of a hyperlink on page 11, line 28. Applicants have amended the specification to remove the hyperlink, thereby obviating this objection.

Sequence Identifiers

The Examiner states that sequence identifiers are missing from pg 28, lines 6, 12 and 13, and that full compliance with the sequence rules is required in response to the instant Office

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Action. Applicants have amended the specification to remove the actual sequence embedded in the text on page 28, lines 6, 12 and 13. MPEP 2242.03 states that "...language such as 'residues 14 to 243 of SEQ ID NO:23' is permissible and the fragment need not be separately presented in the 'Sequence Listing'." Accordingly, the Applicants have retained the language of the specification indicating the position of the fragments being discussed, but removed the embedded sequence, thereby obviating the objection.

Title

The Examiner has objected to the title of the invention as not being descriptive of the instant invention. Applicants have amended the title to "A Major Latex Protein Gene and Pathogen-Activated Promoter and Methods of Use in Transformed Plants", in order to more clearly indicate the invention to which the claims are directed. This amendment is shown in the previous section entitled "Amendments to the Specification", beginning on page 2 of the instant response. No new matter is added by way of the amendment to the title.

Abstract

The Examiner has objected to the abstract of the invention as not being descriptive of the instant invention. Applicants have amended the abstract as shown in the previous section entitled "Amendments to the Specification", beginning on page 2 of the instant response. Applicants assert that the new abstract is clearly indicative of the invention to which the claims are directed. No new matter is added by way of the amendment to the abstract.

Oath or Declaration

The Examiner has indicated that the oath or declaration is defective because non-initialed and/or non-dated alterations have been made to the oath or declaration. For the first inventor, a date was changed and for the fourth inventor, the citizenship was changed. A new declaration is included with the instant response in order to overcome this objection.

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Claim Objections

The Examiner has objected to claims 1-2, 5, 9, 13 and 17 because of informalities. The Examiner has further provided suggested amendments to overcome these informalities. Applicants have amended claims 1-2, 5, 9, 13 and 17 according to the Examiner's suggestions, thereby obviating the claim objections.

The Rejection of Claims Under 35 U.S.C. §112, First Paragraph, Should be Withdrawn Enablement

The Examiner has rejected claims 1-17 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants respectfully disagree.

The Examiner states that the instant specification fails to provide guidance for how Zm-MLP1 and its promoter were isolated. Applicants have provided the full-length sequence for both the Zm-MLP1 gene and its promoter in the sequence listing submitted with the instant specification. Clearly, given the sequences of the gene and its promoter, anyone of skill in the art would be enabled to make and use the gene and its promoter. This could be accomplished by complete synthesis of the gene and promoter themselves, or by the use of primers to isolate the genes from maize DNA. Such techniques are well known by those of skill in the art.

The Examiner further states that the instant specification fails to provide guidance for exact hybridization or amplification conditions and probes/primers to use in isolation of promoters other than SEQ ID NO: 3. Applicants respectfully disagree. Applicants have provided extensive guidance to be used in the selection of stringency conditions based on the desired outcome. See page 8, line 15 through page 9, line 7 of the specification as originally filed. Applicants have also provided an extensive discussion of hybridization conditions and requirements from page 9, line 8 through page 10, line 6. The design of appropriate primers has been outlined by the Applicants on page 20, line 30 through page 21, line 10. Furthermore, Applicants have given guidance regarding the design and use of probes on page 21, line 11 through page 22, line 7. In view of the extensive

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guidance provided, Applicants assert that the invention is clearly enabled as claimed. However, in order to further prosecution, Applicants have amended claims 1, 5, 9 and 13 to remove reference to promoters comprising 30 contiguous nucleotide segments of SEQ ID NO: 3. Applicants have also amended claims 1, 5, 9 and 13 to recite specific hybridization conditions as provided in the specification as filed. See page 9, line 8 through page 10, line 6.

Written Description

The Examiner has rejected claims 1-17 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Examiner states that the Applicants have not, in fact, described DNA molecules that are promoters that hybridize to SEQ ID NO:3 or that comprise 30 contiguous nucleotides of SEQ ID NO:3, and the specification fails to provide an adequate written description of the invention. Applicants respectfully disagree. In view of the claim amendments previously discussed, promoters that comprise 30 contiguous nucleotides of SEQ ID NO:3 are no longer being claimed.

Applicants have given clear guidance of hybridization conditions and requirements as discussed *supra*. Furthermore, Applicants have amended the claims to clearly specify the hybridization conditions required. As such, the written description is clearly adequate and commensurate with the claims.

Accordingly, Applicants request that the rejection of claims 1-17 under 35 U.S.C. §112, first paragraph, be withdrawn.

The Rejection of Claims Under 35 U.S.C. §112, Second Paragraph, Should be Withdrawn

The Examiner has rejected claims 1-17 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

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Applicants have amended claims 1, 5, 9, and 13 to recite stringency conditions in order to clearly define the metes and bounds of the claims.

Applicants have amended claim 12 to refer to "the plant cell" of claim 9 in order to correct the antecedent basis.

Applicants have amended claim 17 according to the Examiner's suggestion by the inclusion of "—wherein the seed comprises the DNA construct."

Accordingly, Applicants respectfully request withdrawal of the rejections of claims 1-17 under 35 U.S.C. §112, second paragraph.

The Rejection of Claims Under 35 U.S.C. §102 Should be Withdrawn

The Examiner has rejected claims 1-5, 8-9, 12-13 and 16 under 35 U.S.C. 102(b) as being anticipated by Stalker *et al.* (WO 98/30698). Stalker *et al.* teach a cotton promoter comprising 41 contiguous nucleotides of SEQ ID NO:3. Stalker *et al.* do not teach a major latex protein gene or its promoter, nor do they teach the sequence set forth in SEQ ID NO:3. Accordingly, in view of the claim amendments removing reference to promoters comprising 30 contiguous nucleotide segments of SEQ ID NO: 3, Applicants assert that the Stalker *et al.* reference does not apply as 35 U.S.C. 102(b) art.

The Examiner has rejected claims 1-5, 8-9, 12-13 and 16-17 under 35 U.S.C. 102(e) as being anticipated by Perera *et al.* (US Patent 6,462,257). Perera *et al.* teach nucleic acids that each comprise 37 contiguous nucleotides of SEQ ID NO:3. Perera *et al.* do not teach a major latex protein gene or its promoter, nor do they teach the sequence set forth in SEQ ID NO:3. Accordingly, in view of the claim amendments removing reference to promoters comprising 30 contiguous nucleotide segments of SEQ ID NO: 3, Applicants assert that the Perera *et al.* reference does not apply as 35 U.S.C. 102(e) art.

In view of the preceding remarks and claim amendments, Applicants respectfully request withdrawal of the rejection of the claims under 35 U.S.C. §102.

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The Rejection of Claims Under 35 U.S.C. §103 Should be Withdrawn

The Examiner has rejected claims 1-17 under 35 U.S.C. 103(a) as being unpatentable over Perera *et al.* (US Patent 6,462,257, filed 1 June 1999) in view of Gordon-Kamm *et al.* (1990, Plant Cell 2:603-618). Perera *et al.* teach nucleic acids that each comprise 37 contiguous nucleotides of SEQ ID NO:3. Perera *et al.* do not teach, disclose or suggest a major latex protein gene or its promoter, nor do they teach, disclose or suggest the sequence set forth in SEQ ID NO:3. Perera *et al.* also do not teach, disclose or suggest maize plants transformed with constructs comprising the nucleic acid.

Gordon-Kamm *et al.* teach transformation of maize and production of seed from the transformed plants. Gordon-Kamm *et al.* do not teach, disclose or suggest a major latex protein gene or its promoter, nor do they teach, disclose or suggest the sequence set forth in SEQ ID NO:3. Gordon-Kamm *et al.* also do not teach, disclose or suggest maize plants transformed with constructs comprising the nucleic acid of SEQ ID NO:3.

In view of the claim amendments removing reference to promoters comprising 30 contiguous nucleotide segments of SEQ ID NO: 3, Applicants assert that the Perera *et al.* and Gordon-Kamm *et al.* references cannot be combined to motivate one of skill in the art to express a heterologous nucleic acid in a plant using the promoter of SEQ ID NO: 3, or a promoter which hybridizes to SEQ ID NO: 3 under stringent conditions as previously discussed *supra*.

Accordingly, Applicants request the withdrawal of the rejections of claims 1-17 under 35 U.S.C. 103(a).

CONCLUSION

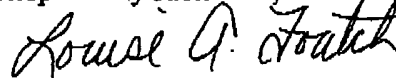
In view of the above amendments and remarks, Applicants submit that the rejections of the claims under 35 U.S.C. §§112, first and second paragraphs, 35 U.S.C § 102 and 35 U.S.C. §103 have been overcome. Applicants respectfully submit that this application is now in condition for allowance. Early notice to this effect is solicited.

If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject Application, the Examiner is invited to call the undersigned.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR §1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-1852.

Respectfully submitted,



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Gene and Promoter and Their Uses
Documents Enclosed: PTO Form 1533; Declaration and Power of Attorney;
Information Disclosure Statement; Form 1449; 5 Citations

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